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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,591	10/09/2001	John P. Alsobrook II	Cura 154CIP	7088

7590 07/01/2005

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EXAMINER	
BRANNOCK, MICHAEL T	

ART UNIT	PAPER NUMBER
1649	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/974,591	ALSOBROOK ET AL.	
	Examiner	Art Unit	
	Michael Brannock	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *11 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5,6,12-14,27,30 and 36-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *5,6,12-14,27,30 and 36-38* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Application: Claims and Amendments

Applicant is notified that the amendments put forth on 4/11/05, have been entered in full.

Response to Amendment

Applicant is notified that any outstanding objection or rejection that is not expressly maintained in this Office action has been withdrawn in view of Applicant's amendments.

Maintained Rejections:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 5, 12-14, 27, 30, and new claims 36-38 are rejected under 35 U.S.C. § 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well-established utility, as set forth previously regarding claims 3-5.

Applicant argues that the specification describes an association between an allelic variant of SEQ ID NO: 13 and increased serum level of apolipoprotein (a) and therefore the invention has practical utility in the prognosis and diagnosis of serum levels of apolipoprotein (a) and cardiovascular disease. This argument has been fully considered but not deemed persuasive. First, it is unclear exactly what the meaning of this association is, as explained on page 110. The specification does not set forth that the serum levels of apolipoprotein (a) of any individual can be predicted from the presence of the allele. No study methods were described in the

specification and, thus, an artisan could not be sure as to what exactly was measured. Second, the association of apolipoprotein (a) levels and cardiovascular disease remains a highly controversial topic and a scientifically intractable problem, see the last paragraph of col 2 page 266 of Homma-Y et al, Journal of Atherosclerosis 11(5)265-270, 2004. Moreover, it appears that the art recognizes that it is the lipoprotein (a) product that may be involved in disease and not apolipoprotein (a) which is just one protein in the lipoprotein (a) particle. Also, there is great difficulty in comparing the protein component (apolipoprotein (a)) of lipoprotein (a) against a common standard; and which is further complicated by the size heterogeneity of the apolipoprotein (a) component, see the discussion beginning on page 1965 of Marconina-SM et al., Clin Chem 46(1956-67)2000. Marconina-SM et al. also report that, " no data are available on the impact of inaccuracy of Lp(a) methods on the assessment of individual risk status for CAD". see the first line of col 2 of page 1965. Regarding the actual measurement of the apolipoprotein (a) component with regard to cardiovascular disease, Scanu-AM, Curr Cardiol. Report, 3(385-90)2001 teach: "The information on this subject is equivocal and must be considered as still on a research level", see second paragraph of page 389. Thus, applicant's assertion that "the SNP reported here *may* [emphasis added] be a specific marker for a statistically significant risk of cardiovascular disease" would be viewed by the skilled artisan as simply an invitation to embark on a further research effort to understand what, if any, role this particular allele has in the prognosis or diagnosis of apolipoprotein (a) levels and/or cardiac disease and that this is simply a starting point for extensive, and expectantly problematic, research and investigation. Applicant is referred to In *Brenner v. Manson*, 148 U.S.P.Q. 689 (Sus. Ct, 1966), wherein the court expressed the opinion that:

> "The basic quid pro quo contemplated by the Constitution and the Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility", "[u]nless and until a process is refined and developed to this point-where specific benefit exists in currently available form-there is insufficient justification for permitting an applicant to engross what may prove to be a broad field", and "a patent is not a hunting license", "[i]t is not a reward for the search, but compensation for its successful conclusion."

The instant claims are drawn to a methods that the skilled artisan would appreciate are not taught in a manner "where specific benefit exists in currently available form", as intended by the court, *In Brenner v. Manson.*

Claim Rejections - 35 USC § 112

Claims 5, 12-14, 27, 30, and new claims 36-38 are rejected under 35 U.S.C. § 112 first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art would not know how

to use the claimed invention so that it would operate as intended without undue experimentation.

Applicant's arguments as to the corollary to the 35 USC 101 rejection have been substantially addressed above.

Furthermore, new clams 37 and 38 encompass polynucleotides encoding polypeptide variants of the polypeptide of SEQ ID NO: 13, i.e. substitutions, deletions or insertions in a protein corresponding to SEQ ID NO: 14; should Applicant establish a specific and substantial utility for the claimed polynucleotides, Applicant has not provided sufficient guidance as to how to make and use the encoded polypeptides which are not 100% identical to the polypeptide of

SEQ ID NO: 14, but which still retain a desired property of the polypeptide of SEQ ID NO: 14, as set forth previously.

Applicant argues that clam language encompassing variants has been removed from the claims. This argument has been fully considered but not deemed persuasive. Claims 37 and 38 use "comprising" language regarding the fragment – these claims read on practically any polynucleotide.

Claims 37 and 38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, as set forth previously and partially reiterated below.

The specification discloses a polynucleotide of SEQ ID NO: 1, yet the claims encompass polynucleotides not described in the specification, i.e. polynucleotides which comprise only portions of SEQ ID NO: 1, e.g. sequences from other species, mutated sequences, allelic variants, or sequences that have a recited degree of identity. None of these sequences meet the written description provision of 35 U.S.C. 112, first paragraph. Although one of skill in the art would reasonably predict that these sequences exist, one would not be able make useful predictions as to the nucleotide positions or identities of those sequences based on the information disclosed in the specification.

Applicant argues that clam language encompassing variants has been removed from the claims. This argument has been fully considered but not deemed persuasive. Claims 37 and 38

use "comprising" language regarding the fragment – these claims read on practically any polynucleotide.

Claims 37 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by US Published Application US20020132273 which is fully supported by US provisional application, 60198474, filed April 12, 2000, as set forth previously regarding claims 5-14.

US Published Application US20020132273 discloses polynucleotides encoding a polypeptide (SEQ ID NO:197) that has 96% sequence identity with the instant SEQ ID NO: 13, and would thus be considered an allelic variant, particularly due to the conservative substitution at position 194, see attached sequence alignment. Vectors and host cells and other variants are also taught, see paragraphs 0051 and 0088. SEQ ID NO: 197 is fully supported in prior application 60198474 where it is disclosed as AOLFR107 at page 104.

Claims 37 and 38 use "comprising" language regarding the fragment – these claims read on practically any polynucleotide.

New Rejection:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Sambrook, eds. Molecular Cloning, Cold Spring Harbor Laboratory Press, 1989, page 5.52.

Claim 37 requires a polynucleotide comprising a fragment of SEQ ID NO: 13, given the broadest reasonable interpretation of the claim, the fragment could be a single nucleotide. Claim 38 requires the nucleotide to be a T. Sambrook disclose oligo dT which is an isolated polynucleotide 8-12 dThymidines in length, see the last sentence of page 5.52.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Please note the new central fax number for official correspondence below:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Brannock, Ph.D., whose telephone number is (571) 272-0869. The examiner can normally be reached on Mondays through Fridays from 10:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, Ph.D., can be reached at (571) 272-0829. Official papers filed by fax should be directed to 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

MB

June 26, 2005

ANTHONY C. CAPUTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600